CLAIMS

1. A method of processing a packet comprising:

receiving the packet;

translating the packet from a first protocol-specific format to a canonical packet format;

translating the packet from the canonical packet format to a second protocol-specific format; and

forwarding the packet.

2. A method of processing a packet as recited in claim 1 wherein the canonical packet format is a generic format that can represent multiple protocol-specific formats.

3. A method of processing a packet as recited in claim 1 wherein the translating is performed in a network device.

4. A method of processing a packet as recited in claim 1 wherein the translating is performed in a network switch.

5. A method of processing a packet as recited in claim 1 wherein the translating is performed in a network switch that includes a pooling switch.

6. A method of processing a packet as recited in claim 1 wherein the first and second protocol-specific formats are the same.

7. A method of processing a packet as recited in claim 1 wherein translating includes copying protocol-specific fields from the packet in the first protocol-specific format.

8. A method of processing a packet as recited in claim 1 wherein translating includes copying protocol-specific fields from the packet in the first protocol-specific format to protocol-specific fields in the packet in the canonical packet format.

9. A method of processing a packet as recited in claim 1 wherein translating includes copying general fields from the packet in the first protocol-specific format.

10. A method of processing a packet as recited in claim 1 wherein translating includes copying multiple protocol-specific fields from the packet in the first protocol-specific format.

11. A method of processing a packet as recited in claim 1 wherein translating includes copying protocol-specific fields from the packet in the first protocol-specific format to common fields in the packet in the canonical packet format.

12. A method of processing a packet as recited in claim 1 wherein translating includes:

copying protocol-specific fields from the packet in the first protocol-specific format to protocol-specific fields in the packet in the canonical packet format;

copying general fields from the packet in the first protocol-specific format to general fields in the packet in the canonical packet format; and

copying common fields from the packet in the first protocol-specific format to common fields in the packet in the canonical packet format.

13. A method of processing a packet as recited in claim 1 wherein:

the translating is performed in a network device;

translating the packet from the first protocol-specific format to the canonical packet format occurs during data ingress; and

translating the packet from the canonical packet format to the second protocol-specific format occurs during data egress.

14. A network device for processing a packet comprising:

an ingress interface for receiving the packet;

an ingress processing engine configured to translate a packet from a first protocol-specific format to a canonical packet format;

an egress processing engine configured to translate the packet from the canonical packet format to a second protocol-specific format; and

an egress interface for forwarding the packet.

15. A network device for processing a packet as recited in claim 13 wherein the ingress and egress interfaces are the same physical interface.

16. A network device for processing a packet as recited in claim 13 wherein the ingress and egress processing engines are implemented on a single physical processor.